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Project Title: Subject inventory, metadata generation and digital scanning of 200 original field notebooks in collection

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Project Abstract: Project involved digital archiving and creation of a detailed subject inventory of 200 items of a collection of geologic information housed at the Missouri Geological Survey (MGS) in Rolla, Missouri. The collection comprises more than 1,500 Missouri Geological Survey field notebooks that date back to 1855 and which are maintained in a climate-controlled, fire-protected vault. The collection is one of a kind, is available only at MGS, and would be impossible to replace should it be lost or destroyed. The project also involved generation of metadata and digital scans for the 200 field notebooks.

Project Report

The Missouri Geological Survey (MGS) has long been committed to preserving, protecting and serving its collections of geologic information, including drillcore and cuttings, survey publications and historic unpublished data. The immediate goals specific to this proposal were to 1) scan and digitally archive 200 field notebooks from the MGS field notebook collection and 2) create a detailed subject inventory of the field notebooks to be entered into the National Digital Catalog, the MGS online Missouri Geology Bibliography and listed on a newly developed MGS webpage specific to the field notebooks (http://dnr.mo.gov/geology/fieldnotebooks.html).

MGS maintains a repository of field notebooks that date as far back as 1855. These notebooks have been stored in a climate-controlled, fire-protected vault with limited access. Scanning was completed on 200 field notebooks and metadata was generated on the author(s), year(s) of work and content. The notebooks were selected primarily based on age and fragility of the notebook. Content categories noted included stratigraphic units, minerals and lithologies, mines and quarries, hydrology, oil and gas, paleontology, structure, karst, measured sections and work was for a specific geologic map. Original stratigraphic unit names were kept when noting stratigraphy and may not match current names, especially in older notebooks. Minerals and rocks included were based on both economic and environmental importance; consequently pyrite, marcasite and other uneconomic minerals with potential deleterious properties were noted. The counties and, in some cases other states in which investigations were done were also included. This work met established proposed goals.

The field notebooks were scanned as 400 dpi tiff files and compiled as pdf documents; both file types were archived. Scan settings were adjusted for varying handwriting styles and weights. Scans were done in RGB to enhance readability of the text. Scanning included the front cover, all inside pages that contained information and any additional papers that were included in the notebook. Pages with no text or other information were not scanned in order to limit overall file size; blank and missing page numbers were noted in the DGLS database. Scan files underwent QA/QC for completeness and quality of the scan, including comparison of the scanned file to the original notebook. This work met established proposed goals.

The subject inventory and other pertinent data, such as contact information to obtain the scan files, was uploaded to the "MO Scanned Field Notebooks" folder on the NGGDPP webpage in the ScienceBase Catalog, with the upload completed on October 1, 2015. This met established deliverable dates.

MGS is continuing to scan field notebooks and generate metadata in our current NGGDPP grant work and plans to complete a set of 270 notebooks for the current grant.

The notebooks have been used extensively by the Missouri Department of Natural Resources Division of Environmental Quality (DEQ) in the location of historic lead mining sites for evaluation of contamination. DEQ has described these field notebooks as having proven vital in the investigation of these sites. The records are of special importance in areas that have since experienced considerable residential development, increasing the risk of lead exposure, especially for young children. DEQ also notes the information in the notebooks saves expensive field time and reduces sampling and chemical costs, allowing them to provide a thorough, cost effective investigation of the sites and to protect human health and the environment for the taxpayers of the State of Missouri.